Objectives

The course objectives are:

1) Provide students, clinicians, academics and researchers with updated knowledge on extracellular vesicles.

2) Analyze the role of extracellular vesicles in health and disease as well as their applications in biomedicine.

3) Encourage interactions among researchers and clinicians.

Cells secrete continuously membrane vesicles to the extracellular space. These vesicles can be exosomes, ectosomes, apoptotic bodies, microvesicles, microparticles, prostasomes, tolerosomas, etc. based on their origin and size. Exosomes, with a size between 30 and 120 nm, have been extensively studied since its discovery almost 30 years ago by Raposo and colleagues. Exosome protein composition is characteristic, and due to their typical surface proteins, they can be recognized by different acceptor cells, uptake and release their content into the cell. Thus, exosomes have been proposed as mediators of cell-to-cell communication in multiple biological processes such as angiogenesis and tumor progression. Exosomes are involved in the generation and modulation of the immune response, and have also been implicated in the transmission of pathogens.

In recent years the interest on exosomes has grown up due to the discovery of the presence of nucleic acids in these vesicles, mainly small RNA.

The fact that exosomes can be detected in many biological fluids, including blood, saliva, urine and milk, and their genetic content can be analyzed, makes them great candidates as non-invasive biomarkers for the diagnosis of different pathological processes such as chronic inflammation, cancer or cardiovascular diseases. Detection of exosomes in cancer patient blood can be used to analyze the origin and genetic status of the tumor, and can serve as a prognostic marker.

In this seminar we intend to bring the study of exosomes and other extracellular vesicles to the audience, making them familiar with their purification, composition and characterization (with a “hands on” session included). We will also discuss their clinical applications in diagnosis and monitoring of diseases, their usefulness as vehicles for specific and selective treatments, as well as for vaccination.

Grupo Español de Investigación en Vesículas Extracelulares

Information, registration and scholarship

Palau de Pineda
Plaza del Carmen, 4
46003 Valencia
Tel. 963 108 020 / 019 / 018
Fax: 963 108 017
Horario de Secretaría de Alumnos:
De 09:30 a 14:00 h

The registration period for the congress is open until the beginning of the seminar while places are still available.

Registration fees: 123 euros

Students enrolled in first and second cycle, as well as any doctoral programs at public universities of Valencia, the Cardenal Herrera-CEU University and Catholic University of Valencia will be entitled to a 50% reduction in tuition fees.

The registration gives the right to obtain a certificate of attendance (attendance at more than 85% of sessions).

UIMP courses in Valencia Valencia are recognized as Free Elections Credits in public universities in the Valencian Community, CEU-Cardenal Herrera University and Valencia Catholic University. Consult your university in case the course validation has still to be resolved.

CÓDIGO: 61TW

Seminar website:

www.uimp.es
secretaria_valencia@uimp.es

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UIMP Universidad Internacional Menéndez Pelayo

13 Seminar

Extracellular vesicles: implications in biomedicine

Director
Antonio Marcilla Díaz

Secretary
María Mittelbrunn Herrero

Valencia
September 18-20, 2013

Extracellular vesicles: implications in biomedicine*

Director:
Antonio Marcilla Díaz
Departamento de Biología Celular y Parasitología, Facultad de Farmacia, Universitat de València

Secretary:
María Mittelbrunn Herrero
Centro Nacional de Investigaciones Cardiovasculares

**** Las conferencias se impartirán en inglés sin traducción simultánea.***

September, 18-20, 2013

Wednesday, 18th

09,30h. Accreditation

09,45h. Opening ceremony

10,00h. Opening conference: extracellular vesicles in biomedicine
Graça Raposo
Department of Cellular Biology, Institute Curie, Paris

11,00h. Working with extracellular vesicles
María Mittelbrunn
Centro Nacional de Investigaciones Cardiovasculares, Madrid

12,00h. Break

12,30h. Extracellular vesicles in tumor progression
Hector Peinado
Weill Cornell Medical College, Cornell University, New York, USA

13,30h. Lunch

14,45h. Extracellular vesicles in hepatic diseases
Juan Manuel Falcón
Centro de Investigación Cooperativa en Biociencias CIC-BioGUNE, Parque Tecnológico de Vizcaya, Derio

15,45h. Extracellular vesicles in transplantation
Francesc E. Borrás
IVECAT Group. Institut d'Investigació en Ciències de la Salut Germans Trias i Pujol, Badalona, Barcelona.

Thursday, 19th

09,00 h. Practical sessions*:
(1) Isolation and purification of exosomes
(2) Macs technology and flow cytometry for extracellullar microvesicles research
(3) Measurement and quantificacion of exosomes by Nanoparticle Tracking Analysis (NTA)
Coordinators:
María Mittelbrunn, Antonio Marcilla
Participants
Dolores Bernal. Universitat de València
María Trelis. Universitat de València
Alex Adan. Miltenyi Biotec S.L., Madrid, Spain
Roberto Ghiandoni. Nanosight Ltd, UK

** Practical sessions will be held in groups in the School of Pharmacy at the Universitat de València (Burjassot)*

14,30h. Lunch

16,00h. Possibilities and limitations for the analysis of nanosized cell-derived vesicles
Marca H. Wauben
Department of Biochemistry and Cell Biology, Utrecht University, The Netherlands

17,00h. Extracellular vesicles in inflammation
Edit Buzás
Department of Genetics, Cell- and Immunobiology, Semmelweis University, Budapest, Hungary

18,00h. Break

18,15h. Round table: Clinical applications of extracellular vesicles
Moderator:
Antonio Marcilla
Participants:
Marca H. Wauben
Edit Buzás
Alex Adan
Roberto Ghiandoni
José Manuel García-Verdugo
María Jesús Vicent

Friday, 20th

09,30h. Exovesicles as vehicles for drug delivery
María Jesús Vicent
Centro de Investigación "Príncipe Felipe", Valencia

10,30h. Extracellular vesicles and pathogens
Hernando del Portillo
ICREA at Centro de Investigación en Salud Internacional, Barcelona

11,30h. Break

12,00h. Closing conference: exosomes in cell-to-cell communication in the immune system
Francisco Sánchez-Madrid
Universidad Autónoma de Madrid, Centro Nacional de Investigaciones Cardiovasculares, Instituto de Investigación Sanitaria La Princesa, Madrid

13,00h Closing ceremony

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